

Work Order ID 85432

June-07-12 3:11:13 PM

85432

Page 1

Item ID: D6101-007

Revision ID:

Item Name: Saddle Billet

Start Date: 07/06/2012 Start Qty: 60.00

Required Date: 14/06/2012 Req'd Qty: 60.00

Reference:

Approvals: Process Plan: *MLJ*

QC:

Date: 12/06/07 Tooling:

Date: SPC (Y/N):

N9000040100

Cust Item ID:

Customer:

Setup Start *NS1*

Stop *NS2*

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours
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Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6101	Rev B

100		0.00
-----	--	------

100

Purchasing

Purchasing

PURCHASING

Memo

Issue P/O: 17167
a) Description: Aluminum billet
b) 7.750" x 8.250" x 2.50" thick
c) Tolerance on all dimensions are +0.030"/-0.000"
d) Grain direction along 7.750" length
e) Material: 7075-T7351 (QQ-A-250/12)
f) Material certification required

110	Receive & Inspect for Damage & Mat'l Certs	0.00
-----	--	------

110

Packaging

Packaging

Memo

Ensure material certification is attached

CZ 12/06/08 60

30x [Signature] SP 12-6-12

split ASAP

**60* 30*
60

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 85432

June-07-12 3:11:13 PM

85432

Page 2

Item ID: D6101-007

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Saddle Billet

Stop ***NS2***

Start Date: 07/06/2012 Start Qty: 60.00

60

Cust Item ID:

Required Date: 14/06/2012 Req'd Qty: 60.00

60

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

Ensure Material certification comply to Dwg D6101

OK 12/06/14

30

OK

130

Identify as per dwg & Stock Location: MAT 41

0.00

130

Packaging

Memo

0.00

Packaging

OK 12/06/14

30

OK

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.00

Quality Control

12/6/15

mf 12-06-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

June-07-12 3:11:17 PM

Page 1

Work Order ID: 85432

85432

Parent Item: D6101-007

D6101-007

Parent Item Name: Saddle Billet

Start Date: 07/06/2012

Required Date: 14/06/2012

Start Qty: 60.00

Required Qty: 60.00

Comments: IPP A: 01.05.04New IssueC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D6101-007P

Purchased

No

110

Each

0.0000

1

D6101-007P

**

7075-T7351 8.25X7.75X2.5

60-30
Sp 12-6-12.



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

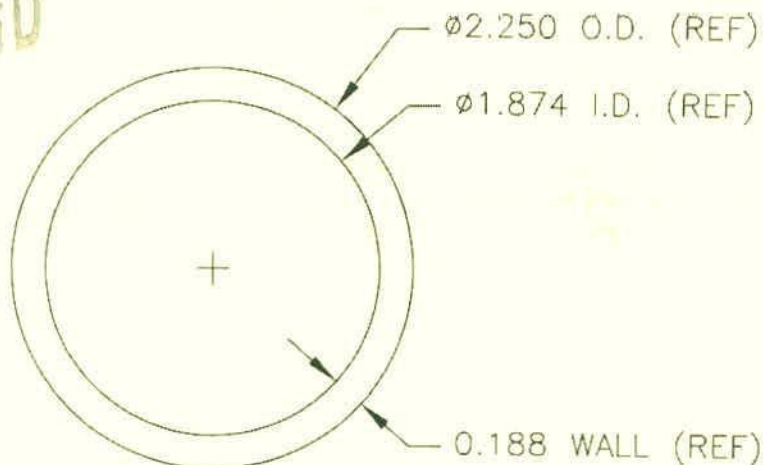
NOTE: Date & initial all entries

DART

DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D6001	REV. A SHEET 1 OF 1
DATE 00.11.22		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.22	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.22



NOTES

- 1) D6001-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 105" LONG TUBE: D6001-105

- 2) MATERIAL: 2.250 OD x 0.188 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.006 MEAN (± 0.012 INCLUDING OVALITY)
WALL: ± 0.006 MEAN (± 0.019 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 85432 MC-5
12/06/07

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



Castle Metals®

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 2

No de Formulaire d'Emballage / Shipment No:1346880

Expédié de / Ship From:		Vendu à / Sold To:		Expédié à / Ship To:		Livré à / Deliver To:	
A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		WILL CALL-MONTREAL 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		WILL CALL-MONTREAL 835 SELKIRK AVENUE POINTE CLAIRE, QC H9R 3S2 CA	
Date d'expédition / Date Shipped	F.O.B.	Modalités de transport / Freight Terms		Transporteur / Carrier		No du Bon de connaissance / BOL No	
11-JUN-2012	ORIGIN	Prepaid		LOCAL_FLEET		1346880-4	

Détails d'expédition / Shipment Details	Destination finale / Final Destination Branch - MON
--	--

N° de commande / Order No	N° de ligne Line No	N° d'article / Item No	Description	
2188834	2	752241.MO	2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) X 7.75 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12	
N° de bon de commande / Purchase Order No	Nbre de pièces / Part Number		Qté commandée / Ordered Qty	Qté Facturée / Invoice Qty
TO BE ADVISED	YOUR ITEM NUMBER: D6101-007		30.00 PCS	30.0000 PCS

Détails / Details		DO NOT SHIP - HOLD FOR RELEASE					
N° de livraison / Delivery No :	Usine / Mill	No de coulée / Heat Number	Code méc / Mech Id	Pièces / PCS	Largeur (Pouce) / Width (IN)	Longueur (Pouce) / Length (IN)	Qté expédiée / Shipped Qty(LBS)
117626590		410016A0 ✓		10 ✓			165.32
117626590		410016A0 ✓		20 ✓			330.63

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Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.

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Date Printed: 11-JUN-2012 11:18 AM

012-60-12



Castle Metals®

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 2 of 2

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Ce matériel a été reçu et inspecté par
Reviewed by Authorized Castle Metals Representative:

Date:

Name:

SHIP TO: A M CASTLE & CO 3050 SOUTH HYDRAULIC WICHITA, KS 67216	
SOLD TO: AM CASTLE & CO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131	
CUSTOMER PO NUMBER: 23-13568	WORK PACKAGE: CUSTOMER PART NUMBER: 6879 A97075-60
KAISER ORDER NO: 1060498	LINE ITEM: 1
SHIP DATE: 18-JAN-2008	ALLOY: 7075
CLAD: BARE	TEMPER: T7351
WEIGHT SHIPPED: 5436 LB	QUANTITY: 3 PCS EST.
B/L NUMBER: 2016119	GAUGE: 2.5000 IN
WIDTH: 48.500 IN	LENGTH: 144.500 IN

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4119118

1AC 6879

Certified Specifications

AMS 4078/RevG
ASTM B 209/Rev06
BSS 7055/RevA
DPS 4.713/RevAH
GSS16100/RevG

AMS-QQ-A-250/12
ASTM B 594/Rev06
CMMP 025/RevR
EAC MS1011/RevE
MMS 159/RevN

AMS-STD-2154
BAC 5439/RevH
CSTI 006/RevC
GAMPS 9101/RevB
PS 21211/RevK

Test Code: 4297

Test Results

Lot: 410016A0 Cast 146

Drop 58

Ingot 4

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.3 : 72.0 (485 : 496)	59.3 : 61.5 (409 : 424)	10.5 : 11.0

(ASTM E1004)

Conductivity %IACS :	41.6 Min	41.7 Max
(MS/M) :	24.1 Min	24.2 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.18	1.5	0.01	2.4	0.20	5.6	0.02	0.01	0.01	TOT 0.04

CASTLE METALS-WIC

DATE REC'D 1-21-08
REC'D FROM 3800
APPROVED BY [Signature]

**KAISER
ALUMINUM**Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586**CERTIFIED TEST REPORT**Serial Number
4119118

Lot: 429154A8 Cast 146 Drop 51 Ingot 1

(ASTM E8/B557)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.7 : 71.8 (494 : 495)	60.0 : 60.0 (414 : 414)	11.7 : 12.0

(ASTM E1004)

Conductivity %IACS :	42.3 Min	42.5 Max
(MS/M) :	24.5 Min	24.7 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.07	0.16	1.4	0.01	2.5	0.23	5.8	0.02	0.01	0.01	TOT 0.03

ALLOY LIMITS

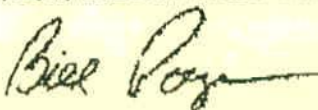
Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder**TEST NOTES**

Metal represented by this test report was immersion
ultrasonically tested from one side and meets the Class A
and Class B requirements of all specifications referenced
on this test report.

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE U.S.A OR CANADA AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED

BILL POYNOR, LABORATORIES SUPERVISOR




Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO17167

Purchase Order Date 6/08/12

PO Print Date 6/08/12

Page Number 1 of 2

Order From :

VC-MET001

METAUX CASTLE

A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100

TORONTO, ON M4Y 3A5

CA

Contact Name

Vendor Phone

514 694 9575

Vendor Fax

514 695 3281

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA



Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6101-001P	7075-T7351 2X6X6.25	6/13/12 Yes	40.00 Each	Yours ppd	\$36.0000	\$1,440.00

Special Inst: AS PER DWG D6101 REV. B
B85433
MATERIAL: 7075-T7351 AS PER QQ-A-
250/12
SIZE: 6.00" X 6.250" X 2.00" THICK
GRAIN DIRECTION ALONG 6.00"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.030"/-0.000'

SP 12-6-12

2	D6101-003P	7075-T7351 2X6.25X7.875	6/13/12 Yes	40.00 Each	Yours ppd	\$48.0000	\$1,920.00
---	------------	-------------------------	----------------	---------------	-----------	-----------	------------

Special Inst: AS PER DWG D6101 REV. B
B85434
MATERIAL: 7075-T7351 AS PER QQ-A-
250/12
SIZE: 7.875" X 6.250" X 2.00" THICK
GRAIN DIRECTION ALONG 7.875"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.030"/-0.000'

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

No substitution or deviation without
consent.

Certificate of Conformity or Material
Certification required YES NO

Change Nbr: 1

Change Date: 6/08/12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO17167

Purchase Order Date 6/08/12

PO Print Date 6/08/12

Page Number 2 of 2

Order From :

VC-MET001

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
CA

Contact Name

Vendor Phone

Vendor Fax

Vendor Account Nbr

514 694 9575

514 695 3281

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

Destination-Collect

D6101-005P ✓

7075-T7351 8.25X5.0X2.5

6/13/12

Yes

30.00

Each

Yours ppd

\$57,9500

\$1,738.50

D6101-005P

7075-T7351 8.25X5.0X2.5

6/22/12

Yes

30.00

Each

Yours ppd

\$57,9500

\$1,738.50

Special Inst:

AS PER DWG D6101 REV. B
B85429
MATERIAL: 7075-T7351 AS PER QQ-A-
250/12
SIZE: 5.00" X 8.250" X 2.50" THICK
GRAIN DIRECTION ALONG 5.00"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.030"/-0.000'

D6101-007 ✓

Saddle Billet

6/13/12

Yes

30.00

Each

Yours ppd

\$79,2500

\$2,377.50

D6101-007

Saddle Billet

6/22/12

Yes

30.00

Each

Yours ppd

\$79,2500

\$2,377.50

Special Inst:

AS PER DWG D6101 REV. B
B85432
MATERIAL: 7075-T7351 AS PER QQ-A-
250/12
SIZE: 7.750" X 8.250" X 2.50" THICK
GRAIN DIRECTION ALONG 7.750"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.030"/-0.000'

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

PO Total:

\$11,592.00

Change Nbr:

1

Change Date: 6/08/12

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required (YES) NO

Chantal Lavoie

From: Desbiens, Marc <mdesbien@amcastle.com>
Sent: June 8, 2012 1:19 PM
To: Chantal Lavoie
Subject: RE: QUOTE

Hi Chantal,

price & delivery on material.

D6101-001 X 40	\$ 36.00 pce	stock	
D6101-003 X 40	\$ 48.00 pce	stock	
D6101-005 X 60	required asap	\$ 57.95 pce	30 pcs stock – balance 2 weeks
D6101-007 X 60	required asap	\$ 79.25 pce	30 pcs stock – balance 2 weeks
D6102-013 X 40	required asap	\$ 34.90 pce	10 days

Thanks

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